

SUSTAINABILITY GOAL #5

The total weight of hazardous air pollutant (HAP) emissions is reduced to zero.

AIR QUALITY



The Strategic Environmental Research and Development Program (SERDP) through the U.S. Army Corps of Engineers Construction Engineering Research Laboratory (CERL) conducted a field study at Fort Carson on particulate matter (PM) 2.5 emissions generated primarily by tracked military vehicles in September.

Where the goal fits in the Fort Carson Strategic Action Plan

- Goal #1 Promote mutual respect, professional development, personal growth and teamwork, while celebrating success.
- Goal #2 Provide the services and support that contribute to mission readiness.
- Goal #3 Positively contribute to the spiritual, physical, psychological, and emotional well-being of the Mountain Post Community and create opportunities to enhance understanding of Fort Carson for our local neighbors.
- Goal #4 Provide vibrant, healthy, safe and environmentally-friendly places and spaces and Hometown services for the Mountain Post.
- Goal #5 Transform Fort Carson people, processes, products, places and profits – to show by our actions what sustainability and environmental management is, and its critical role in meeting the mission in all its dimensions by 2027.

Fort Carson was selected as the first U.S. Army Garrison to calculate its greenhouse gas (GHG) contribution as a first step toward future management. While GHG emissions consist of a broader class of air pollutants than HAPs, the Installation is taking a proactive approach in addressing this relevant sustainability issue.

In September, the Department of Defense (DoD) Strategic Environmental Research and Development Program conducted field study at Fort Carson on particulate matter (PM) 2.5 microns emissions generated primarily by tracked military vehicles. The purpose of the project was to develop emission factors from tracked vehicle operations for the benefit of DoD environmental programs.

Site audits were increased to canvas more motor pools and capture more air quality products coming on site from sources other than the Hazardous Material Control Center (HMCC), which is charged with tracking products on Post. Better data about products will now be captured.

Fort Carson also switched to using an acetone-containing paint for road striping operations. The acetone paint has the same HAP content as the original water-based paint; however it is more durable in high traffic areas and therefore reapplications should be reduced, which will ultimately reduce HAP releases. It will require approximately a year to evaluate if the new paint will yield a HAPs reduction.



The new DOL paint booth has an environmentally-friendlier heating/air handling unit compared to the older booths. The unit produces far less nitrous oxides and carbon monoxide emissions compared to the bldg. 8000 paint booth units, and is almost 100 percent energy efficient due to the direct heat transfer from fuel combustion to heated air space.



Other air quality-related initiatives undertaken by Fort Carson include parts washers that use safer, nontoxic solvents to clean parts. Soldiers are provided training on how to use the washers.

FUTURE GOAL 5 INITIATIVES:

- Reinvestigate with the Directorate of Logistics (DOL) the use of water-based chemical agent resistant coating (CARC) paint in the new "drying" paint booth
- Co-coordinate with DOL to make two product substitutions at HMCC, which could potentially cut chemical-use generated HAP releases by more than 50 percent.
- Continue with efforts to educate Installation staff and units about mitigating air quality impacts.

OPPORTUNITIES:

- Finding ways for Fort Carson and other military installations to influence manufacturers, transportation systems, Army material and equipment specifications and operating procedures in order to attain zero HAP emissions.
- Researching opportunities for further emissions reductions that will emerge over time with technology and process changes as simple HAPs reduction efforts have already been undertaken.